

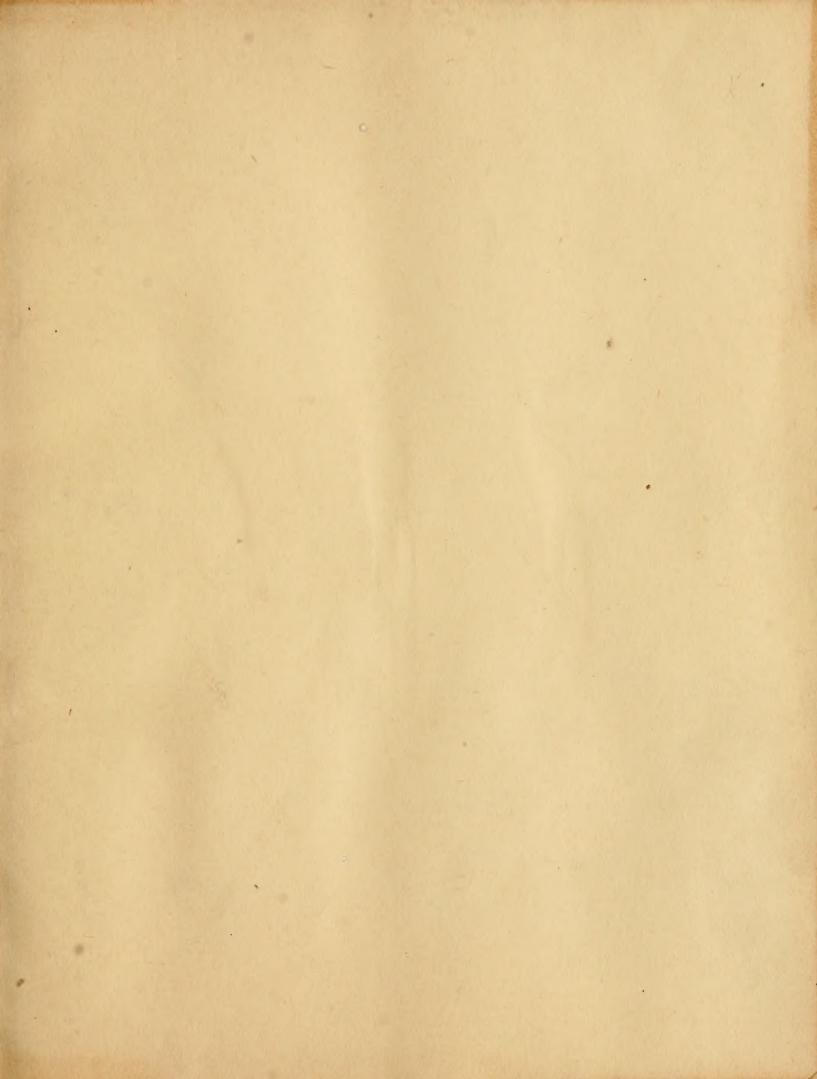
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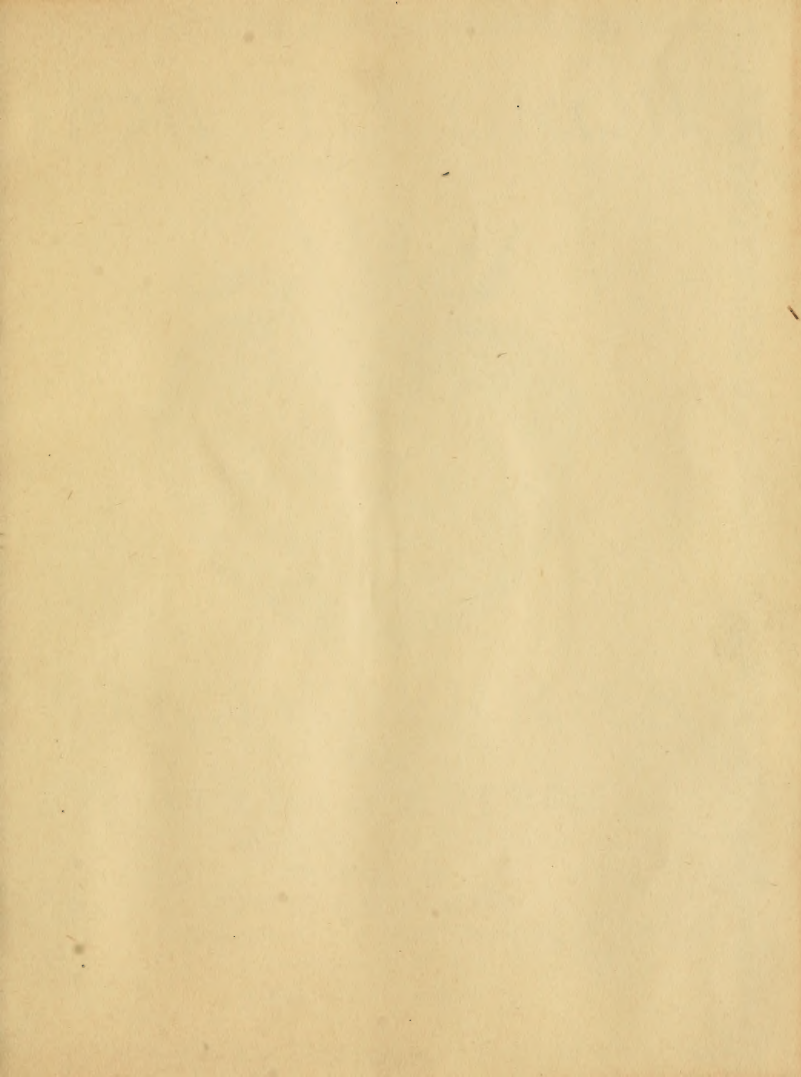
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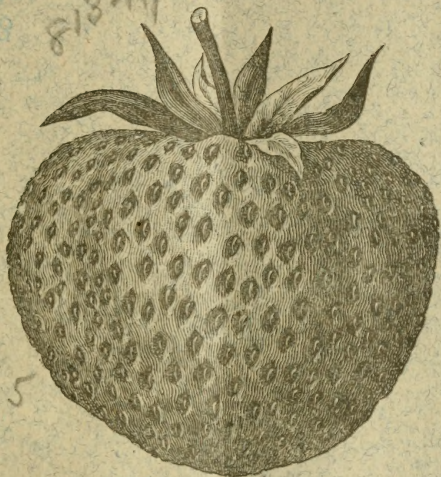
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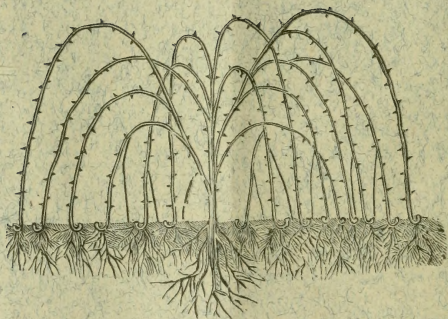
STRAWBERRIES

—AND—

OTHER FRUITS.

Published by
PUTNEY & WOODWARD,
NURSERYMEN and FRUIT GROWERS,
Brentwood, N. Y.

PRICE TEN CENTS.



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THE "LONG-ISLANDER" PRINT, HUNTINGTON.

Maxims in Berry Culture.

All heavy crops are grown on rich soil.

Bone dust and ashes make fine berries.

Measure the profit by the amount of manure.

Careful transplanting insures superior growth.

Moist earth and a cloudy day for transplanting.

The larger the plant the better the growth.

Drying the roots is killing to the plant.

Ten plants well cared for are better than one hundred ill used.

Berries well picked and packed are half sold.

The cleaner the culture, the better the crop.

In hoeing, a stroke in time saves nine.

Shallow cultivation for mature plants.

"If little labor, little are our gains,

Man's fortunes are according to his pains."

:O:

DEAR READER:—Are you fond of fruit? Do you admire its beauty of blossom? Its delightful fragrance? Can you find joy in its taste? If so, you are sure to find pleasure in its culture. There are many things to learn in connection with fruit culture and the most experienced growers are always learning; still this need not deter the beginner from starting in the most delightful of all occupations, alike for the young, the middle-aged and the old. A few simple directions, carefully followed, will enable even a child of twelve to gain a degree of success very gratifying.

Small fruit growing has many advantages over any other occupation. A poor man, woman or child can engage in it and become their own employer. Women have made successful florists and can make still more successful fruit-growers. The labor is light, pleasant and healthful. It brings one in contact with nature when she is at her best. When Winter winds howl and the earth is rocked in icy fetters, the fruit-grower can use his well earned leisure as suits him best. If rains stop his work, it is little matter, for the thousand rootlets of his plants are working for him day and night.

In the following pages we have tried to give you plain, practical directions, so you may make few mistakes. Much more can be said; but, if you do this much well, your common sense will carry you over other difficulties.

Profit of Loss.

Profits in fruit growing vary as they do in any other business. More depends upon the man than upon his surroundings. The successful fruit grower must be persistent, energetic, and feel a pride in his work. This is of more value than capital. Still, capital is desirable, particularly for the purchase of manures for poor soils and the hiring of sufficient help to keep down weeds.

Strawberries have been known to yield at the rate of \$2,000 per acre, but the usual returns are under \$500. Raspberries yield about \$100 per acre less than strawberries under the same good culture. Evaporated raspberries are as much a staple crop as apples or peaches. Blackberries are quite as profitable, but the surplus is generally worked up into syrups and cordials for medicinal purposes. Currants and gooseberries, with very high manuring, should yield a better profit than raspberries. The demand for good currants increases yearly. In many favored regions grapes are very profitable—12,000 lbs per acre is not an unusual crop. They vary in price from 3 to 25 cents per lb. Peaches are more and more profitable as means of transportation increase. Indeed this is true of all the fruits. \$300 and upward is often realized from an acre. Plums are very profitable and more popular as the means of fighting the curculio is better understood.

Pears are the most profitable of the larger fruits. It is quite possible to realize \$1,000 from an acre of Anjou or other choice pear. Quinces are quite as profitable as pears where their care is understood. Apples, the most valuable of all the fruits, are very profitable if a careful choice of variety is made.

We here caution the novice against anticipating any such profits. Such profits are realized only from good land, well manured and cared for by experienced and practical men. The beginner must be content with a modest profit until he gets that experience which can only come from careful practice.

A good market within 200 miles, with cheap facilities for transportation, adds largely to the profit. A local market is very desirable; you save the extra expense of crates, freight and commission. Last Summer, when berries were selling as low as 6 and 7 cents per quart in New York City market, at places only sixty miles away they were sold for 15 cents per quart. This is true all over the country. The local markets are always the best. They are more likely to be glutted, but the wise fruit grower will plant accordingly. Then, too, he will not put all his capital into strawberries, but will follow with raspberries, blackberries, currants, gooseberries, grapes, apples, pears and quinces; thus keeping his force of pickers constantly busy and securing a line of custom that will learn to depend upon him.

It would be unwise to put much area in small fruits if you anticipate much difficulty in getting pickers. To grow a fine crop of berries and then let them rot on the vines for lack of necessary help, is a very decided loss. If you are in the midst of other berry growers and there is much competition to secure pickers, you will be sure to go to the wall and lose money if your berries are smaller than your neighbors. You must be the grower who has large berries and plenty of them. Then you will have no difficulty to get and retain the services of the best pickers.

Preparation of the Soil.

No subsequent tillage can ever make up for inadequate preparation of the soil for fruit growing. If too wet for corn to do well, the soil should be drained. It is desirable that all fruit plants and trees be planted on soil that has been under good culture during the past season. By good culture we mean heavy manuring and careful cultivation by means of plow, cultivator and hoe. If the land is in sod, it should be broken up, manured heavily with barnyard manure, planted with corn and all weeds kept down throughout the season. If it is necessary to plant it with fruits the following season, it may be manured again at the rate of fifty tons of yard manure to the acre and plowed late in the Fall; but a better plan is to manure and plow as stated and plant with potatoes. By adding a half ton of some good potato special manure, besides the fifty tons of yard manure, you will much increase your profit on the potatoes and leave your soil in excellent condition for the planting of fruits. Such manuring would be in excess in many parts of the great Mississippi valley. Early in the Spring plow again and harrow thoroughly, not once or twice, but as many times as is necessary to make all as mellow as an ash heap.

STRAWBERRIES.

There are several species of strawberries. The two species from which nearly all our valuable varieties are derived are *Fragaria Virginiana*, a native of North America, and *Fragaria Grandiflora*, a native of South America. In the first the seeds are in deep basins, fruit tending to conical form and highly perfumed; flowers small with five petals and roots long and wiry. In the *Grandiflora* the seeds are in shallow basins, fruit nearly round with less perfume and flowers much larger with sometimes seven petals; the roots short and fleshy. There are but two foreign varieties that have done at all well in North America. They are the Jucunda, which seems to succeed only on the clays of western Pa., and the Triomphe de Gand, which yields well under high culture on heavy soil.

Naturally the strawberry flower is perfect or bi-sexual. Each strawberry seed has a pistil through which it must be fertilized in order that it may come to perfection. The fertilizing pollen is given off by the stamens, which number about twenty. The stamens are the male part of the flower, the pistil is the female. Flowers having both stamens and pistils are termed perfect. Flowers having only pistils are imperfect or pistillate. Varieties with pistillate blossoms should be planted near varieties having perfect blossoms, so that they may be properly fertilized. In choosing a variety to plant near a pistillate, select one that bears an abundance of pollen. Pollen is carried by the wind and insects. In this vicinity one row of perfect blossoms in every four of pistillates is enough to insure a crop. A pistillate variety will vary quite perceptibly when fertilized by different perfect varieties; so, if you want firmness, you should fertilize with Wilson; if sweetness is wanted, fertilize with Sharpless; if dark color is wanted, fertilize with Longfellow. In fact, whatever peculiarity you wish to transmit to the pistillate variety, seek it in the perfect variety you would fertilize by. This influence extends only to the fruit for that season; but, if the seed which has been so fertilized is planted, a new variety will be the result, which may be like either parent, or possibly have some of the characteristics of both.

Raising new varieties from seed requires patient care. Only the best berries should be selected. The seed should be washed from the pulp and sown immediately, about one-quarter of an inch deep, or they may be dried and sown the following Spring. The soil should be kept moist in a warm, half-shady place. In about four or five weeks the plants will appear. When in the third leaf they may be transplanted to a bed where each plant should have at least six square feet. Allow three or four runners to take root and pinch off the rest. Be not over sanguine as to results. About one seedling out of a thousand is worthy of perpetuation.

Only a few growers try to produce seedlings. The plants generally used for setting are termed runners. As soon as a strawberry plant begins to grow it sends out long slender stems upon which from six to twelve inches from the plant a germinal bud forms. If the soil beneath this bud is friable and moist, little rootlets will soon put out and penetrate the soil below and thus form a distinct plant. This, with others, may now be taken up and transplanted at any time when the roots are sufficiently strong and the new bed moist enough to insure a healthy growth.

Time of Planting.

Strawberries are planted to best advantage early in Spring or in the middle of Fall; but may be planted any time of year when the ground is open, provided they are watered, if the ground is not sufficiently moist. The earlier they are planted the better the crop the following year. You can plant in May with good results and also in June after an early crop of peas are taken off. If your ground is in very good order and *rich*, you can set plants in July and August and get a moderate crop. We have set plants in rich soil as late as November and secured a fair show of berries the following June. We say plant early if possible, but rather than go without berries next Summer, plant some, no matter how late.

Consider well the character of your soil, your market, your mode of culture and means of transportation before you determine what variety to plant. Many failures may be charged to a wrong selection. For the novice it is well to put three-fourths or more of the area in varieties that have the reputation of succeeding under adverse circumstances, such as Kentucky, Downing, Wilson, Crescent, Indiana, Manchester and Miner. If you intend to confine yourself to hill culture, choose varieties that make few runners, such as Crimson Cluster, Jessie, Jewell, Sharpless and Prince. As a rule such varieties have a tendency to stool up and form bog-like hills.

Those varieties that are very vigorous in putting out runners must have a chance to spread and cover the ground in order to do their best. Many times a new variety is condemned because it will not succeed under a certain system of culture. No variety should be condemned until it has been given a fair chance on very good soil, both light and heavy, and by different modes of culture.

Prepare the soil as directed on page three. Aim at thoroughness. Frequently two extra harrowings at the cost of two dollars for an acre, would put the ground in superior condition. Avoid proximity of trees. The shade does little harm, but the roots extend to a great distance—sometimes twice the height of the tree—and take up the manure and moisture so essential to the strawberry. It is possible to grow some long-rooted varieties among trees, but not so well as away from them.

Even when planting on a very large scale, the garden line should be used in setting plants. By marking off the rows exactly, you will save much future hand labor, as the cultivator, whether one or two horse, can be made to do most of the hoeing. The rows for Jewell, Crimson Cluster, Sharpless, Prince and similar growers, can be made three feet apart; for Crescent, Gandy, Ohio, Kentucky and other rampant growers, plant four feet apart. At the latter distance you will want 10,000 plants to the acre.

A half-bushel basket, lined with stout muslin, is good to carry plants in. The muslin should be well wet several times a day. A boy can drop plants for you one foot apart. See that he leaves the roots and leaves not intermingled and do not allow him to drop more than three plants ahead. If the soil is very dry, care should be taken to dash aside the half inch of surface soil in order that it fall not against the roots. Now, plunge in the strawberry planter so far that your hand nearly touches the soil and the handle of the planter is parallel with the surface. Draw the planter about two inches toward you, at the same time take a plant in the left hand. A little practice soon enables you to spread the roots fan shaped without using the right hand. Place the plant in the hole against the little bank left by the planter, and raise the planter, letting the loose earth fall against the roots. Then, with a single stroke from you with the back of the planter, press the earth against the roots. The dryer the earth the firmer should be the pressure. When finished the earth should be level with the crown or germinal buds and not covering it. If you do not use a planter*, set as directed for raspberries. If the ground is very dry it is well to pour a pint of water into each hole. Two things you *must* avoid, drying of the roots whether in wind or sun, and contact of the roots with fertilizers. Either is very damaging.

If you desire to use concentrated manure to make up for a lack of fertility in the soil, do not put it on until after planting is done. Then scatter a table spoonful around each plant and stir it into the soil with a hoe. As soon as runners put forth vigorously, use more, scattering well, and hoe in. A little and often is the rule. We have seen many fine plantations of strawberries ruined by scattering the fertilizer first and then stirring it into the soil. Where the roots came in contact with the fertilizer, they were burnt.

*The planter referred to is advertised in the catalogue of Putney & Woodward, Brentwood, N. Y.

Management.

To secure healthy, robust plants and future large crops, you *must* pick off the blossoms as they appear. If you allow them to fruit, do not expect anything more from them. When the planting is well done in straight rows, the cultivation is very little trouble, provided it is taken in time. Make it a point to *go over all the ground once in ten days* during the growing season. You who have so much trouble in keeping strawberries clear of weeds, will be surprised how easy it is when cultivated frequently. We use a two-horse riding cultivator, driving astride the row.

Very little work with the hoe is necessary, but that little must be done with judgment. The strawberry roots are largely near the surface, particularly near the close of the season. We have seen apparently careful workmen, who have left the ground looking neat and clean; but, who have cut off so many roots of the plant, that it could be lifted out by a single leaf. It is a good rule to hoe deep the first two hoeings, and after that to never disturb the soil more than half an inch deep within eight inches of the plant.

As soon as the runners show a tendency to root, the cultivator should be narrowed gradually until the space left does not exceed eighteen inches, which is wide enough for a path. Even this space will be filled by vigorous varieties. An occasional weed may appear too close to plants to use the hoe. These should be pulled when small.

Mulching is one of the important factors in strawberry culture. If the season is favorable, *i. e.*, if we have frequent showers, the strawberries will be just as plenty and as large without the mulch, but they will be so well sanded that their market value will be very much lowered. With even a light mulch this is remedied, and the enhanced color and freedom from grit makes for them a ready market.

If the season is not favorable and a drought ensues, the berries will dry up and barely pay for picking. Here is where careful mulching pays. The ground, being protected from drying winds and the scorching sun, remains moist and is thus enabled to bring the fruit to perfection.

Mulch heavily if you want to have your berries very late, but do not put it all on until the ground is deeply frozen. Four or five inches is none too much. Two inches is enough for early berries or for heavy material.

For material we mention the following in order of merit: Strawy horse manure, salt hay, sedge, pine needles, straw, corn stalks chopped, leaves held by light evergreen boughs, lawn clippings, spent tan bark and coarse sawdust.

After mulching, they need no further attention until picking time, except to open the mulch where they find difficulty in pushing through.

Provide neat crates and baskets. Do not be tempted to use a dirty basket or crate even if given you. *In selling, everything depends on having fine, large fruit put up in attractive packages.*

Give your pickers a stand, which can be made of lath, to hold four quart boxes, and instruct them, and see to it that they handle the berries much more carefully than they do eggs. Have them put the small and imperfect ones in one basket, and the large, fine ones in the other three. If you have a good variety and have cared for them well, there will be very few small ones. Round up the box well and turn the stems of the top ones down. This gives a showy appearance and is much better than topping off with extra large ones. Customers like to receive a full quart and just as good berries at the bottom as at the top of the basket. For a market five hundred miles or more distant, berries *must* be picked in a very firm or partially green condition. This condition can only be learned by experience. If you would be successful, your picking must be well done at any cost. As soon as picked the berries should be placed in the shade, as they soon spoil in the hot sun.

If possible, engage one party to take all your berries at a uniform price. An enterprising groceryman for your home trade and a reliable commission merchant if you are obliged to send to a city. You will not be likely to make a bargain in advance with a commission merchant unless your berries are well known to him. In a home market it is a great advantage to be able to deliver your berries and have them off your hands.

Avoid jolting in carrying berries to market or depot.

It is much easier and more profitable to set out a new bed every year than it is to clean out an old one when grown in matted rows. By plowing up promptly after picking ceases, late cabbage, celery, and other crops can be grown to advantage. This is the best preventive of injurious insects getting a foothold.

Garden Culture.

Plant the Prince, Gandy, Jessie, Sharpless, Jewell, Gold or Crimson Cluster, two feet apart each way and keep the runners cut. They will stool up and make immense hills. These varieties are well suited to garden culture. Hoe frequently and if your soil is rich you will get more berries than you are likely to anticipate.

Potted Plants.

When a strawberry plant is set in early spring, it will put forth runners as soon as it is established. These runners are long slender stems, upon which at intervals a young plant will form, which will strike its roots into the soil beneath. If a three inch pot is filled with rich loam and sunk into the soil beneath the young plant as soon as it shows a tendency to root, a potted plant will be the result in two weeks. It may then be severed from the parent plant and transported one or a thousand miles, and set out in the dryest weather with success. Potted plants are generally set in August and September. They are sure to disappoint if set on poor or only moderately rich soil.

RASPBERRIES.

Plant as early in Spring as possible.

Set the garden line to have the rows eight feet apart. Cap varieties should be three feet apart in the row and sucker varieties two feet. Use a sharp spade for setting. Stand facing the line with a boy on the opposite side, who carries the plants in a half-bushel basket. Strike the spade into the ground, keeping it perpendicular. Work it back and forth once, then the boy can place the plant in the cut made by the spade and retain his hold of it until you remove the spade and press the soil against the plant with the foot. The germinal buds of the plant should be about two inches below the surface. As soon as all are planted, cut off every plant even with the surface. The wood, if left, will make a feeble attempt to perfect a few berries. This is not desirable. If allowed to fruit, the canes for next year's fruit will be weaker. Concentrate all the energies of the plant in producing two or three strong canes for next season's fruitage. These canes should come from below the surface of the ground.

Cultivation should commence as soon as planted. Go over the ground with the hoe and level off about the plant and leave a half inch of surface soil friable. Plant early potatoes between the rows. If an extra amount of fertilizer is used, harrow it in thoroughly. Cultivate every ten days throughout the growing season. When the potatoes blossom, cease cultivating them and dig as soon as merchantable. If dug by July 5th, carrots or rutabaga turnips may be sown in a single drill. By planting with potatoes and carrots between the rows, enough can be produced to pay all expense of plants, setting, manure, &c. Do not do any pruning the first year. If you have planted cap varieties and wish to get some young plants from them, pinch off the leading shoots when eighteen inches long. Numerous branches will put out and creep along the surface of the ground for ten feet or more. In September place a little soil on the tip of each cane and it will soon take root and by Oct. 20th furnish a good, strong plant. See cut on 2nd cover page.

Pruning may be done during early Spring and until the buds have pushed a half-inch. By pruning at this time you can determine better how much of the cane to take off. Cut main canes back to two and a-half feet the first year and the side shoots within three buds of the main stem, being sure to take off all parts that are Winter killed. Trimmings had better be burned, as destructive insects may have found harbor among them. The second year early potatoes may again be grown between the rows, manuring liberally. When the new canes reach the height of three feet pinch them off. *Do not pinch or prune again until the following Spring*, then prune as for first season's growth, except that canes may be left three feet high and side shoots of four buds. It is a common error to keep on pinching both the leader and side shoots. This practice, combined with late cultivation, is certain to cause a late growth which will be winter killed.

The first year cultivate deep among raspberries; the second year and thereafter cultivate shallow every two weeks and cease cultivating by August 1st. This will insure thorough ripening of the wood. If practicable, mulch with any material suggested for strawberries. Growers on a large scale will find the two-horse riding cultivator to work well among raspberries; astride the row the first two seasons and between the rows thereafter. Market in shallow pint baskets, which are made to fit the regular thirty-two quart crates. (Read marketing of strawberries.)

BLACKBERRIES.

This fruit was very much neglected for several years, but now is receiving well merited attention. If you have any choice of soil, it is well to plant on a sandy loam, although they will do well on a clay. It has been going the rounds of the press that blackberries can be grown to good advantage on very poor soil. This is not so. Blackberries, as well as the other small fruits, will do much better under thorough cultivation. The most prolific bed we ever knew was very rich, the canes often reaching twenty feet in height. After the soil is thoroughly prepared, the plants should be set the same as directed for raspberries, except that the rows may be a foot wider apart. Use about fifteen hundred plants to the acre. Garden truck may be grown between the rows the first two seasons. The canes need no summer pruning the first year. The Spring following, they should be shortened one-third, both canes and branches. Do not be afraid to prune severely; you lessen the number of berries, but you will get just as many quarts and much finer fruit. The second year it is well to pinch the leading shoot when it is twenty inches high. Do not pinch again. Overmuch Summer pruning causes immature buds, which are apt to Winter-kill.

Cultivate thoroughly but shallow and cease cultivating by August. This gives the canes opportunity to ripen their wood. The second year the canes should be shortened about one-third and the old canes removed and burned. In some instances, where no stakes are used, it may be necessary to cut back more than one-third in order to make the canes self-sustaining. It will pay to mulch two or three feet on each side of the row with some coarse material. Corn stalks answer well. In localities where blackberries are apt to Winter-kill, it will pay to bend them down and cover with earth. In such case no pinching back should be done.

After the berries are picked carefully, they should be placed in the shade immediately, as they scald and spoil quickly in a hot sun. For the same reason it is desirable to have a covered wagon to carry them to market. On good soil, with an occasional top dressing of manure in the Fall or Winter, a blackberry plantation will remain in profitable bearing for eight or ten years.

"The Ripon people have been very successful in the practice of laying raspberry and blackberry bushes down for Winter protection. Their way of laying them down is by the help of a plow, which is run close alongside the row, the dirt being thrown from the row. The surplus wood is removed from the bushes. A man follows the plow with a spade and after loosening up the earth about the roots on the side towards the furrow, he pushes the plants down and covers the top with earth. The roots are like ropes and will not break. Mr. Plumb thinks that this is the most economical way of protecting blackberries. Mr. Stone's great success with blackberries was accomplished on poor land. The manure and the cultivation were applied early in the season, and in that way strong canes were secured before Winter. He thinks we should take the best protection for the bushes that we can get. The plowing between the rows does not materially increase the number of suckers. The plowing may be done as near as possible to the bush and no injury will result."—*From Popular Gardening.*

CURRANTS AND GOOSEBERRIES.

These two valuable fruits require almost the same treatment. Where possible, it is well to plant five feet each way, using seventeen hundred and forty-two plants to the acre. Set in the same manner as directed for raspberries. Do not stint the manure. These berries require extra heavy manuring in order to get berries that will command the best price. Not only should the soil be in excellent tilth at the time of planting, but it should be top-dressed yearly (every Autumn or early Winter,) with pig or cow manure. There are no fruits that will respond more quickly to good treatment than these. Cultivate often and keep all grass and weeds down. As soon as the leaves fall, the pruning may be done. One-third of the current year's growth should be removed, and where the wood is crowded it should be thinned. As the bush attains age, two-thirds of the current year's growth is not too much to be removed.

The currant worm is destructive to many plantations of both these fruits. They must be watched closely and as soon as the worms show themselves, dust the leaves with powdered white hellebore. Two or three applications should be sufficient.

The currant borer is sometimes found in old bushes. Cut out the wood infected and burn it. A well cared for plot should last fifteen or twenty years.

GRAPES.

Strong one-year vines should be selected for planting, which may be done in Fall or Spring. After the ground is thoroughly prepared in accordance with previous directions, holes should be dug thirty inches in diameter and eight inches deep; distance, eight feet by six, nine hundred and five vines to the acre, the eight feet space running north and south. Set a three inch stake in the centre of each hole. The stake should be two feet below the surface and four feet above. Smooth off the surface within the hole, leaving the centre three inches higher than the outside. Cut the roots off with a sharp knife, leaving them ten inches long, and plant carefully, seeing that the roots radiate from a common centre like the spokes of a wheel. Cover with the best earth and firm it well with the feet. On no account should any fertilizer be put in contact with the roots. The depth to plant varies in different soils. In clay soil four inches deep is enough; in light sand six inches is not too much.

Between the rows of grapes a single row of root crops may be grown, or a row of strawberries, which should be plowed under promptly after bearing one crop. As soon as vines are all planted cut each one back to two good buds. Cultivate frequently—the plow should be kept out of the vineyard—and when the two shoots have grown a few inches rub off the weaker one and tie the other to the stake loosely. Soft twine, basswood bark or strips of muslin may be used. Be careful in handling the young shoots, as they are easily broken off. Do no Summer pruning. Keep the vine tied to the stake. If it grows beyond the stake, all right. No harm will result. Soon after the leaves fall, cut back to three buds and heap the soil about the vine so as to cover all complete. This is important with young vines.

The second year allow two canes to grow, giving preference to the lowest ones if not weakly. If the first year's growth had ten feet of well-ripened wood you may allow the vine to perfect two or three bunches of grapes, otherwise the blossoms should be removed. The second year and thereafter, the cultivation should be shallow. Keep the ground well stirred and canes tied to stake. No Summer pruning. Before growth starts the third year procure good chestnut or locust posts nine feet long and set them between the vines; a very strong one at the end of the row, another eighteen feet distant, allowing three vines between the posts. Set the posts four feet deep and fasten four No. 8 wires fifteen inches apart. The third year four canes may be allowed to grow, being careful to take them from as near the surface as possible. The two upper ones may be allowed to fruit and may be carried diagonally to the top of the trellis; the two lower ones should have the blossoms removed and may be trained erect. The fourth year cut the canes that fruited back to one bud each and leave five feet of well-ripened wood on the canes that did not bear fruit. This ten feet of wood will furnish the fruit for this year. The blossoms that come on the canes that were cut back short should be removed. The vine may now be considered established, provided, of course, that neglect in preparation of the soil, planting, culture, &c., has not made a year or more difference in the development of the vine.

Grapes may be had by everybody, even in the city. Flag stones may be removed in either front or back yards, a good bed prepared and a few vines planted and the stones replaced at slight expense. The vines may be trained against fence or buildings seeking a southerly and westerly exposure. Grapes ripen to perfection under such conditions. The vines, of course, may be allowed more latitude than in vineyard culture.

I have given one good way to grow grapes. There are other and more complicated methods, but they are not suited to the novice.

Ice Houses for Fruit.

Every fruit grower should have an ice fruit house to keep many kinds of fruit in. Parties in Ulster County have told us that they have kept Concord grapes till mid-winter, getting six to eight and even ten cents per lb, while if sold when taken from the vines they would have brought but two or three cents per lb. *The Rural World* gives a very simple plan as follows: "Those who have not good frost-proof cellars in which to store fruits and vegetables, can easily and cheaply make a house that will answer the purpose admirably. A room built with double walls, having a two foot and a half space between, boarded up on the inside and out, the space closely filled with cut straw, a double roof with a three-foot space, and also filled with straw, will keep quite an even temperature the year round."—*From Popular Gardening.*

PLANTING TREES.

Holes for nursery grown trees should be at least four feet in diameter and eighteen inches deep. Pears, hickories, elms, chestnuts and other deep-rooted trees should have holes two feet deep.

Planting should not be attempted when the air is frosty or soil clammy.

Keep roots from exposure to frost, wind and sun. Cut ends of large roots off smooth. Cut out all weak branches, and the others within five buds of the main stem, preserving a well balanced head. Have low branching tops for all fruit trees. It is not natural for the trunks of trees to be exposed to the sun. It is a common cause of blight and bursting of bark.

Hold the tree upright and set the same depth it stood in the nursery. Fill in the best and finest earth, spreading out the roots naturally. If you lack rich, fine earth to put among the roots, bring a good barrow load from the garden and use one load for each tree. If roots are in two layers, hold the upper ones up while filling in and pressing about the lower ones. When the hole is nearly filled, pour in two pails of water and finish filling. Press *firmly* with the foot and *towards* the tree. Large trees should be staked to prevent swaying by the wind. Straw is suitable for tying.

Dress with well rotted manure on the surface, *never* among the roots. Keep soil well cultivated for several years. It is money, time and labor wasted to plant a tree and neglect it. If trees must be planted in sod, a circle ten feet in diameter should be forked over and kept free from weeds. Most trees should be yearly top-dressed with manure. Ashes are excellent, both wood and coal.

The best time to top-dress trees and small fruits is as soon as the leaves drop in Autumn. If planted in Autumn, heap up the earth well about the tree and leave it until the ground settles in Spring.

PEACH.

An apparently barren soil can with a little manure and constant cultivation, be made to bear an abundant crop of peaches. Set the trees twelve feet apart each way, taking three hundred and two trees to an acre, and cut back a little more severely than directed for planting trees. We cut back to a stick eighteen inches high. Keep the soil well cultivated, but stop by August, so your trees may ripen their wood. Examine your trees near the surface of the soil in July and September and cut out with a knife any borer you can find. Or adopt the method noted under the head of quinces.

Top-dress early every Spring with bone dust and wood ashes, using a peck of each to a tree. Where there is a trace of yellows it may generally be charged to a lack of fertility, combined with over-production of fruit. As a rule, manure is best supplied by use of bone dust and wood ashes, but where these are not obtainable, a first class super-phosphate of lime is good. Overbearing is best avoided by pruning the ends of the past year's growth from one-third to one-half. We like best to do this just before or at blossoming time, as we can at that time judge best how much bloom to leave.

Great care should be observed in picking, sorting and packing. Two and three peck baskets are used.

PLUMS.

Set plums fifteen feet apart each way, taking one hundred and ninety-three to an acre. Give them the same culture and care that is recommended for the peach. Prune but little, cutting away only decaying and interfering branches. All stone fruits should be pruned as near the ends of the branches as possible and not next to the trunk.

The curculio is an insect about one-quarter of an inch long. It stings the fruit at and immediately following blossoming time and causes it to drop from the tree. Jar the tree *early* in the morning during blossoming time and catch the insects on sheets. Keep the practice up until you catch no more. They last but a few days and where there are many trees, it does not cost more than ten cents per tree. Some parties claim that they succeed in getting very good crops of plums by planting in the chicken yard or hog yard. We have not tried it, but believe it is possible to keep the little turk off by spraying the trees with an emulsion of kerosene and milk, the same as is practiced with apples.

Plums market well in the ordinary grape basket. All the small and inferior fruit had best be given to the pigs.

CHERRIES.

Hearts and Bigareaus should be planted twenty feet apart each way, using one hundred and eight to the acre. The Dukes and Morellos fifteen feet apart, using one hundred and ninety-three to the acre. Cherries seem partial to a rich, gravelly loam. Annual top dressings of both coal and wood ashes we have found very beneficial. The best cherries we ever had were from a tree in a heavy clay that received nothing but coal ashes. At the South plant on northern exposures or on the north side of buildings. Keep the branches low and avoid excessive manuring. If you have never succeeded with the Hearts and Bigareaus—the better class of cherries—try the Early Richmond type. They bear early and are hardy and healthy.

PEARS.

Standard pears should be planted eighteen or twenty feet apart each way; dwarf seven to twelve. Pears must have generous culture to do well. An autumnal top dressing of manure is very beneficial; wood ashes are excellent. At the time of planting and annually thereafter, shorten the current year's growth with a careful eye to form and symmetry. Gather pears from one to two weeks before maturity and ripen in the house. Gather Winter varieties before frost. Choice pears always bring a high price. Send only select specimens in small attractive packages. Kegs holding one bushel are popular among commission men.

Many parties are disgusted with pear growing because they have set large numbers of some varieties that were highly praised by some nurseryman or tree agent and have failed to realize any pleasure or profit from them. There are, in fact, less than ten pears of the hundreds that are listed, that are worthy of general planting. If we were to plant one hundred trees for profit, we should plant fifty Anjou, twenty Seckle, twenty Clapp's and five Bartlett. For home use we would add Doyenne, Belle Lucrative, Flemish Beauty, Duchesse, Sheldon, Lawrence and Winter Nelis. For canning the Kieffer promises to become very popular. Standard pears should be cultivated deep and dwarf pears shallow. Dwarfs need extra heavy manuring.

APPLES.

Thirty feet by thirty is a good distance for apples, though some of the spreading varieties do better with thirty-five feet. Apples and pears require thorough cultivation. On no account should an orchard be cropped with grain or seeded to grass for seven years at least. The most practicable way is to grow root and vegetable crops entirely. Much pruning is not desirable. Cut out the least important branches where likely to interfere. Keep branches well down so that the trunk of the tree is shaded. Be not ambitious to plow near the tree. If you cannot afford to fork under a narrow strip, leave it.

For market it is well to confine yourself to about three varieties, either of Baldwin, Ben Davis, Hubbardston Nonesuch, Newtown Pippin, R. I. Greenings, Ruxbury Russet, Spitzenburg or King of Tompkins Co.

If there is any apple in your neighborhood that is justly popular for market, that is the kind to plant. There has been nearly as much loss as gain in apple and pear culture because of the planting of varieties that fail to yield a profit. We know of many orchards in which one-fifth to one-half of the trees are of varieties that have never yielded one dollar of profit. Unlike the growing of the small fruits, you cannot change your varieties readily. Much thought should therefore be given to a judicious selection.

After apples are grown many fail to keep them through the Winter. In order to keep well, they must be picked *early*, just as soon as they get to full size, and the stem will part readily. Pick very carefully from the tree and put into clean dry barrels and carry to a shed opening to the north, or stand on the north side of a building and cover with boards. Watch carefully and when freezing weather comes cover with straw, mats or carpeting; when ice begins to make an inch, remove to coldest part of cellar.

QUINCES.

We do not know much about quince culture, but we have a neighbor who has been very successful. He is a cabinet-maker by trade and is a careful, painstaking workman in all that he undertakes. We have been over and had a talk with him and we herewith give the result:

"Those trees have been planted over fifteen years. I got them of Mr. E., who told me they came from the N. A. Phalanx, then located near Red Bank, New Jersey. They commenced to bear the second year and have been bearing ever since. Some years I get twenty dollars or more from the fruit of those four trees. I never pruned any of any account until last year. This year I had a poor crop. I manure with washwater and other slops from the house and distribute it well, and never put it on the same spot for obvious reasons. Think if I had used wood ashes they would have done better, but I kept those for my vegetables. Yes, I dig over the ground early in Spring and keep the weeds down the best I can during the Summer. I think I have a good way to fight the borer. I inject hot water into the holes with an oil can. I think a syringe would be better for the oil can burns my hands.

Yes, it is a good variety. I have never bought any at your nursery as good. Yours do not bear so well nor so early and they rot more.

The Orchard.

[FROM FARM JOURNAL.]

*Apples from the laden branches
Bending o'er the garden wall,
Rosy cheeked and russet coated,
In the yellow grasses fall.*

Pick fruit only when it is dry, clear and cool.

Give us an Old Mixon peach, nearly every time!

Have you cleaned out the borers yet? Peter Tumbledown has not.

Little and often is a good rule in the orchard, whether for pruning or fertilizing.

Does the tree bear poor fruit and not much of it? It is not the tree's fault; it is yours.

Never pour fruit from one basket to another; never pour fruit at all, except hog apples.

Just now is the time to cut off the suckers around young fruit trees. It is better than later.

The crying need of an orchardist is for some insecticide that will climb a tree and apply itself.

"Nothing works better than bees and fruit-growing," says J. H. Andre, of Lockwood, N. Y. And he knows.

The lady bug is the orchard policeman. She is worth her weight in gold. Her business is to destroy leaf and bark lice.

Keep a smoky coal-oil lamp out of the fruit room or the fruit will be spoiled. Bad odors of all kinds are quickly absorbed by fruit.

There is no better place to store boxes or barrels of apples for the first few days after they have been picked than under the shade of the trees upon which they grew.

Pick the pears and ripen them under a blanket or in a tight box, in a dark cool place. Your wife's best bureau drawer is a good place for a few choice specimens—if she will let you.

Fruit-growing is an advanced degree in farming. It demands a higher order of intelligence than many others. Requires more brain and less muscle. It promotes, advances, and elevates every farmer who engages in it.

Winter Preparations for the Small Fruit Harvest.

Berry crates and baskets should be looked over, cleaned, and if the crates are much soiled they should be painted. Berries sell best in new, unpainted baskets. New baskets should be provided every two years. If you ship to a distant market try a few gift crates and baskets. Packages holding thirty-two quarts are sold for thirty-two cents. Your address should be carefully stenciled on top and ends of all packages of fruit. Your "mark" will not be long in acquiring a reputation.

Stands for carrying baskets in the field should be made now. Half-inch boards are most suitable to use. If you wish to economize you can make a stand that will answer very well, out of barrel staves. In such cases the sides should be of heavier material, seven-eighths or inch pine, and the bottom nailed on to the sides with four-penny nails. The *inside* measure should be 11x17 inches. The handle should be put on lengthwise of the stand and may be a broad barrel hoop or piece of harness trace.

If more than three or four crates are picked daily it will pay to put up a shed on the border of the berry field. Many berries are annually lost by exposure to sun after picking. A simple board roof of hemlock 13x13, with posts and plates of poles cut in the woods, need not cost more than five dollars.

No better mulch can be used for strawberries than manure and litter carted direct from the stable to the beds while the ground is frozen. The largest and finest quality and most profitable strawberries we ever grew were covered in February when the ground was frozen a foot deep. The litter was direct from a cowyard and was mostly of corn-stalks.

We are plowing ground now (Dec. 6) for setting strawberries next Spring. It was heavily enriched for potatoes last Spring. During the present Winter we shall cover it with manure at the rate of twenty-five loads to the acre, and work it into the soil with a gang plow early in Spring. We are satisfied that it pays to plant only what you can manure thoroughly. Last March we manured this ground with New York horse manure at the rate of sixty-five dollars per acre, and with special potato manure at the rate of forty-five dollars per acre. This Winter we shall put on New York horse manure at the rate of seventy-five dollars per acre. Will it pay?—*E. D. Putney in Farm Journal.*

Strawberry Leaves.

The strawberry plant shows by its leaf what is the shade of color, size, shape and quality of the berry. The lighter the color of the leaf, the lighter you will find the color of the berry, as in the Jersey Queen, Parry and Sharpless. The darker the leaf, the darker the berry, as in the Wilson, James Vick and Longfellow.

The leaf also indicates the size of the berry, as witness the immense leaves of the Sharpless, Jersey Queen and Jessie, and the small leaves of the Crescent and James Vick. An irregular berry is indicated by an irregular leaf, a round berry by a round leaf, a long berry by a long leaf. Leaves on the same plant will vary considerably, no two are alike, but their general form will be the same.

It is easier to see the difference in the quality of leaves than it is to describe it. You can best see it by comparing a leaf of the Prince, one of the best in quality, with a leaf of the Wilson or Garrettson. In the Wilson leaf you will find the venation much coarser than in the Prince. The Henderson you will find a little coarser than the Prince, the Belmont a little coarser than the Henderson and the Lida still coarser, and so on through the list. As the quality of the leaf is, so is the quality of the berry. The fine and delicate veins of the leaf of the Prince indicates the superior quality of the fruit, while the coarser and less delicate veins of the Garrettson and Wilson indicates the inferior fruit. The veins of the leaf can be seen by the naked eye, but are more interesting when seen by the aid of a magnifying glass. The leaf should be held between the light and the eye.

Another point, which we have not verified so as to be able to state it conclusively as a fact, is that the relative productiveness of strawberry plants can be told by the number of serratures, or saw-tooth points, on the leaf.

The facts we have given will enable growers of seedlings to foretell, in a measure, what the fruit of their plants will be.—*E. D. Putney in Farm Journal.*

Extracts from "Popular Gardening."

Pear Tree Scale.—Dissolve two pounds of potash in two gallons of water, and apply to all the stems, branches and trunk of the tree by means of a paint brush. One or two applications will destroy all. This can be applied at any time when the foliage is off the trees.

Insuring Clean Berry Picking.—I have my rows numbered one, two, three, and so on, up to the whole amount. I take a sheet of paper and nail it on a board, and number the lines. My pickers come. I have a little daughter fourteen years old who usually does this checking business. Beginning with patch No. 1, Lizzie Burns, you take patch No. 1; some one else take No. 2, &c. There are all my pickers with the rows numbered, and the name of the picker to each row. I make it my business to be about, and I look down, and here is a row that isn't picked clean. Who picked No. 10? The record says so and so picked No. 10. She comes back and picks the row over again, and loses money while she is picking. They do not like to be laughed at, consequently, they are picked very clean if you bring them back once or twice. Any child that knows numbers and can read and write, can manage a whole picking and keep the patch picked clean, by having a superintendent.

Root-Pruning Fruit Trees.—This is an operation which is sometimes advisable, with the view of making barren trees fruitful, but it applies only to trees that do not fruit well in consequence of their luxuriant growth and not to trees unfruitful from starvation. Many expedients have been adopted to cause young trees to fruit earlier, the most common being to graft them upon weaker growing stocks. The pear grafted on the quince is a familiar illustration; by this means growth is checked and flowering hastened. Fruit trees in soil which has been highly enriched, such as in a vegetable garden or rich old meadow, will often grow to large size, and yet not produce fruit. When in this condition anything that will check their growth without injuring them otherwise will throw them into flower and fruit, and proper root-pruning will effect this. The most favorable time is about October. By digging out a trench encircling the tree at a distance four feet from the stem of a tree, say twenty feet in height, with proportionate spread of branches, and cutting through at least all the strongest roots, it will check the wood growth and cause many fruit buds to be formed.

A Native Fruit for Cultivation The Dwarf Juneberry.—The true horticulturist is not satisfied with attempting to improve our cultivated fruits. He wants to explore the forests and prairies, to see if nature has not some new material upon which he may experiment. To him a poor fruit, taken from its native wilds and made to yield its crop in his own garden, is often of more interest than a far more delicious one that has been cultivated for centuries.

If the readers of *Popular Gardening* include any such, I want to suggest to them the Dwarf Juneberry, *Amelanchier canadensis*, as a fit subject on which to operate. I think there may be something really worth working on in this fruit. I have no hopes or fears that, even in its most highly improved state, it will ever drive the strawberry out of our gardens. I do not, however, see why it may not take rank along with our finest varieties of currants and gooseberries.

My knowledge of this fruit commenced in 1882. Some young plants set out in the Spring of that year bore a few berries the next season, and the yield continued to increase until the Summer of 1885, when the bushes bore an immense crop. The berries, if such they may be called, average about the size of the largest samples of blueberries, to which fruit they have a striking resemblance both in color and form. The flavor is sweet and delicate, but not very pronounced. No one that has tasted them in my presence has expressed a dislike to them, though some pronounce them insipid. With cream and sugar the flavor is rather heightened. The berries begin ripening toward the latter part of June and the crop lasts from two to three weeks.

The plant is a somewhat straggling shrub about five feet high when full grown, though our bushes at present are but three feet high. It appears perfectly hardy and in favorable seasons bears profusely. It is readily propagated by divisions of the roots and also by seeds. The latter method is, of course, the one to which we must look for the improvement of this American fruit.

The Extremes of Gardening.—The tendency of fruit growing and vegetable gardening is to specialize, to grow one or two products upon a large scale and solely for the money there is in them. Fruits which endure rough handling, long shipments, which are large and showy, are taking the places of the better fruits. To grow and to pick their own fruits is becoming less and less common among suburban residents, even among the farmers themselves in some places. We are all depending too much upon the markets. We are losing the miscellaneous gardens, which are made for all the good things which they contain. The person who depends solely upon the city markets cannot know or appreciate good fruit. The freshness of the product, in most vegetables and fruits, determines its dessert value to a large extent. This modern loss of the home garden is emphasizing the value of fruits which simply look well upon the grocer's table, and is depreciating the refinements of horticultural pursuits and products. Quality must always suffer when dessert fruits are grown and handled by the wholesale. The products become simply so much bulk, so many pounds or quarts of gross food, which the boarding-house mistress uses in abundance because they are cheap. The flavor and relish of the individual varieties, the appreciation of delicacy of taste, the appetizing influence of the best and freshest products of the thriftiest garden, do not appear. The commercial tendency of the times is towards the money rather than the product. But the situation is by no means a hopeless one. There are still an abundance of people who dislike the market and who are willing to pay well for the best, even though they cannot or will not grow it. Every town contains such people. They are ready to support a better husbandry. They make it possible for the gardener who is ambitious to exercise his skill in the production of the very best produce to make a living. I rarely advise my students to pursue horticulture on a large scale. I urge them to grow less and to grow better. Superior fruits and vegetables command a remunerative price at nearly all times. Let the grower establish his line of customers and then supply their tables for the season, or at least supply the choicest kinds. I still believe in the tidy horse and wagon which carries the fruit and vegetables directly to the door of the consumer while they are fresh and crisp. There is money in it. There is satisfaction to the grower who appreciates the best products. Or, if the grower does not care to raise a general line of fruits and vegetables, let him select two or three specialties, such as are not carried to perfection in extensive culture, and prosecute them to the utmost extent of his skill. I believe that the right man can even make money from true dessert apples. The right man can do well with Winter pears. When it is once known among the best families that the grower is always to be relied upon and that he offers nothing in any way inferior, his success is assured. He may not attract attention from the magnitude of his operations, but he ought to draw the full measure of comfort and happiness from life. He carries a sure business and enlarges it only upon a safe foundation. As a people, we cannot prosecute the best horticulture until we intensify our energies, and add to manual skill a mental appreciation of all there is of the art. The gardener should grow as well as his garden.

L. H. BAILEY, Agricultural College, Mich.

Autumn Treatment of Trees and Shrubs.

Of the hundreds of thousands of trees and shrubs planted out every season, it is safe to assert that not more than one-fourth of them attain the growth they should. This lack of thrift may be owing to careless planting or insufficient manure and cultivation, or all three. There is no one thing that will induce a thrifty growth more than a good top-dressing of manure dug in shallow about the tree or shrub just before Winter sets in. It seems to be of nearly twice as much value as when applied in the Spring.

Growth is made so early in Spring and ceases so early in Summer that it is a great advantage to have at hand whatever there is of manurial value in the soil. By top-dressing in Autumn, the Winter and Spring rains will carry the manure down where it will be ready to be taken up by the roots of the tree. Those who have never tried this will be surprised at the results.

Be liberal in your dressing. A good wheelbarrow load of well-rotted barnyard manure, dug in about the tree in a circle seven feet in diameter, is none too much.

The above applies to shade and ornamental trees as well as to fruit trees.

E. D. PUTNEY, in *Farm Journal*.

How to Pack and Ship.

[BY A NEW YORK COMMISSION MERCHANT.]

Much risk of loss in shipping goods to this market may be avoided by giving particular attention to having them arrive in good condition and with a handsome appearance.

Marking and Shipping. Mark plainly and neatly on the head or cover of every package, its contents, gross weight and tare, or the number of dozens, pairs, or pieces contained. Also the name, initials, or shipping mark of the shipper, and the address of the firm to which the package is sent. Stencil plates for this purpose will be furnished on application. Where large lines of goods are shipped, simpler marks may be used by arrangement between the parties. Always get receipts from the express or transportation companies, and send immediately full advices, with correct invoice of shipment, by mail. When poultry or game is forwarded by express, put a letter of advice in one of the packages, and mark plainly on the outside "Bill," advising by mail also. Nothing is so vexatious to a commission house as the receipt of consignments not properly marked and advised. Every shipper who designs to make a business of forwarding good articles should have a brand or mark of his own. Thus he may establish a reputation for his goods. Perishable articles should be shipped so as to arrive here not later than Friday morning.

Dried Fruit.—Apples and peaches dried in the sun are valued largely according to lightness and brightness of color. Sour apples are preferred to sweet. The dark color, so common and objectionable a feature, is caused by exposure to moist, warm air, in which the fruit dries so slowly that fermentation ensues. Apples may be sliced or quartered, but the two kinds should never be mixed in the same package. They should be cleaned and cored, then sliced or quartered. The slices cut thin in the form of rings right across the cored space, are preferred. Sliced apples are used by the local trade, quarters by the export trade. The crisper the quarters the better. Of ordinary sized apples the pieces should be quarters, not eighths nor sixteenths. Sun-dried apples should be packed in barrels, the quarters in large barrels and pressed in very tightly so that the net weight of apples will be 25 lb or more. The barrels should be uniform and new if the apples are to command the best price. Apples dried on strings are more popular than formerly. Peaches may be pared or unpared. The former sell for double or more the price of the latter. Pared peaches should be cut fine. Unpeeled may be halves or quarters; the halves bring a little higher price than quarters. Cherries must be pitted, and to bring the highest price must be very dry, entirely unmixd with sugar. Red cherries sell better than black. Black raspberries and blackberries are dried whole and care must be taken that they are unbroken. Pack red and black raspberries separately. Plums must be pitted. The Damsons sell best of sun-dried. Much care should be taken to have all kinds of fruit thoroughly dried, but particularly Southern fruit, which comes on the market in late Summer or early Fall before there is settled cool weather. Much loss is occasioned by fruit souring while in transit that was not carefully dried. Fruit dried by the patented evaporators is more popular than sun-dried, and, as to apples, peaches and plums, commands much higher prices. There is less difference in berries, but the evaporated are preferred. Apples and peaches thus dried are generally best liked in boxes of either 25 or 50 lb net weight. The standard size of boxes for apples is twelve inches high, twelve inches wide and twenty-four inches long, outside measurement; a box of this description will contain fifty pounds of fruit. Pine boards, planed on the outside, should be used in making the boxes. The following rule for packing peaches, which also applies very largely to apples, should be closely observed: Lay the box top side down. Upon the inside of the cover lay two pieces of fancy paper, lengthwise. On them lay a flat piece of manilla wrapping paper, or oiled paper, just the size of the surface of the box. On this (which will be up on opening face of box), lay on the facing pieces of fruit in rows, lapping the edges neatly like fish scales, always with the pit side down. Fill up and put another piece of manilla or oiled paper on the fruit and nail on the bottom. Apples are dried to some extent in hop kilns, and when proper care is given to drying them they are quite desirable and meet with a good sale.

Apples.—Assort them to run uniform in size and quality. Pack in new barrels of the standard size, one variety in a barrel. Turn the upper head of the barrel down, take out the lower head and commence packing by placing a tier of apples snugly with stem ends upon the head. Then fill up the barrel without bruising the fruit. Shake down gently but thoroughly, and fill so full that the head must be pressed in with a lever, or barrel-press, flattening the last tier of apples. Then fasten the head, turn the barrel over and mark plainly with a stencil-plate the variety contained.

Pears.—This delicate fruit must be picked and forwarded a sufficient time before it will naturally ripen, to ensure its arrival at market in a firm state. Pears are not elastic like apples, and must be handled very carefully to avoid bruising. They may be packed in the same way as apples, excepting that varieties without high color should have the large end, and those having color should have the colored side next to the head in the first layer. Shake down gently but thoroughly, and press the head down firmly upon the contents, but not so tightly as to bruise the fruit. Some packers use a paper next to the head. Tight barrels or half-barrels are the best, except that, in mild weather, it is better to ventilate the packages. Put only one variety in a package, and stencil or neatly mark the name of the variety on the head.

Grapes.—When shipped from distant points, the best packages for grapes are cases containing eighteen three-pound boxes and covered baskets holding ten to twelve lb. The boxes should be well filled and weigh full three pounds. All packages should be filled so full that the cover will draw down tightly on the contents, holding them firmly in place, but not so as to bruise the fruit. Near-by shippers also largely use the covered baskets, and they are generally considered to be the most desirable package. Many shippers from near-by points use flat wooden boxes with hinged cover measuring about twenty-one inches long, twelve inches wide and five inches deep, and holding twenty-five to thirty lb. These packages have to be returned to the seller and many buyers object to them for that reason. A package which has met with much favor lately is the "gift" crate, consisting of six light wooden tills enclosed in a neat slat crate. This package is not returnable and often sells readily when the "return" boxes are neglected.

Cranberries.—The quality of berries in each package should be as uniform as possible, both in regard to size and color. Use no packages smaller than the standard size. The standard barrel measures $25\frac{3}{4}$ inches in depth, diameter of head $16\frac{1}{2}$ inches, and diameter of bilge $18\frac{3}{4}$ inches, inside measurement. The standard bushel box measures $8\frac{3}{4} \times 12 \times 22$ inches, inside measurement. Barrels should be turned on the head and filled from the bottom, filling so full that the lower head has to be forced in by means of a lever or other mechanical power. Crates should also be packed very tightly to prevent the berries from shaking about.

ROSES.

Select a plot exposed at least four hours to the sun's rays. Where the roots of trees occupy the ground it is necessary to grow them in tubs sunk into the ground; or better, build a shallow cistern of brick and fill with a compost of rotten sods and cow dung. Roses require care to produce good results. Well rotted cow dung mixed thoroughly with the soil will produce wonderful bloom if the plant is never allowed to suffer for water. Keep free from weeds; stir the soil frequently; when dry weather comes on mulch with rotten manure, and water every other night, drenching leaves and buds. This treatment will cause the monthly roses to give you a profusion of bloom, which should be cut off as fast as they begin to fade.

Budded roses should be planted sufficiently deep, so that the junction of the bud with the stock is two or three inches below the surface of the soil. Hardy varieties may be planted in the Fall. Pot grown and tender varieties may be planted as soon as danger from frost is over. Be sure and firm the soil well about the roots. At the time of planting cut back the branches about one-third. The Hybrid Perpetuals require to be pruned as soon as their first blossoming is over, in order that you may have a good display in the Fall.

Even the hardy varieties do better with a slight protection. This may be done by hilling up with earth or covering up with straw or leaves held by light evergreen boughs.

Insects.

The aphid attacks plants in the house. Cover the plant with box, tub or paper, and fumigate with tobacco smoke; or strew a few tobacco stems under the plant and water them; or brush the places infested with an infusion of one-quarter pound of tobacco to a gallon of water, using a small painter's brush.

During May go over the bushes frequently, and crush between the fingers the nest of the rose caterpillar. The nest is formed by gluing together two or more leaves.

For mildew sprinkle the plants with a solution of sulphur, soot and water.

Flowering Shrubs.

A judicious selection and planting of flowering shrubs gives a lawn an attractive and finished appearance. A group of a dozen different varieties will give a succession of bloom from June to November. They should be planted and cared for the same as recommended for roses. The early blooming varieties should be trimmed as soon as out of bloom ; the late blooming varieties in very early Spring. In both cases, prune one-third of previous season's growth, caring at the same time for the symmetry of the bush. Carefully hoeing a small circle about the shrub will insure larger and freer bloom. An application of liquid manure just before they bloom, will make the colors richer. Satisfactory results are not obtained through neglect.

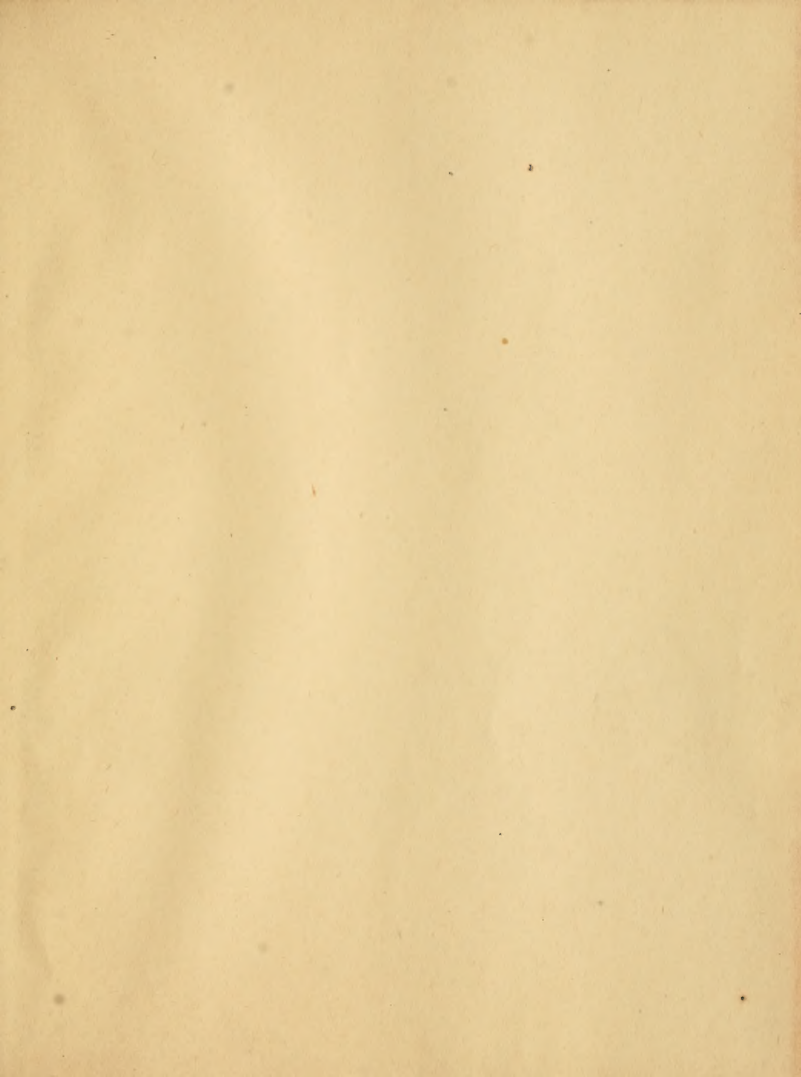
Deciduous Trees.

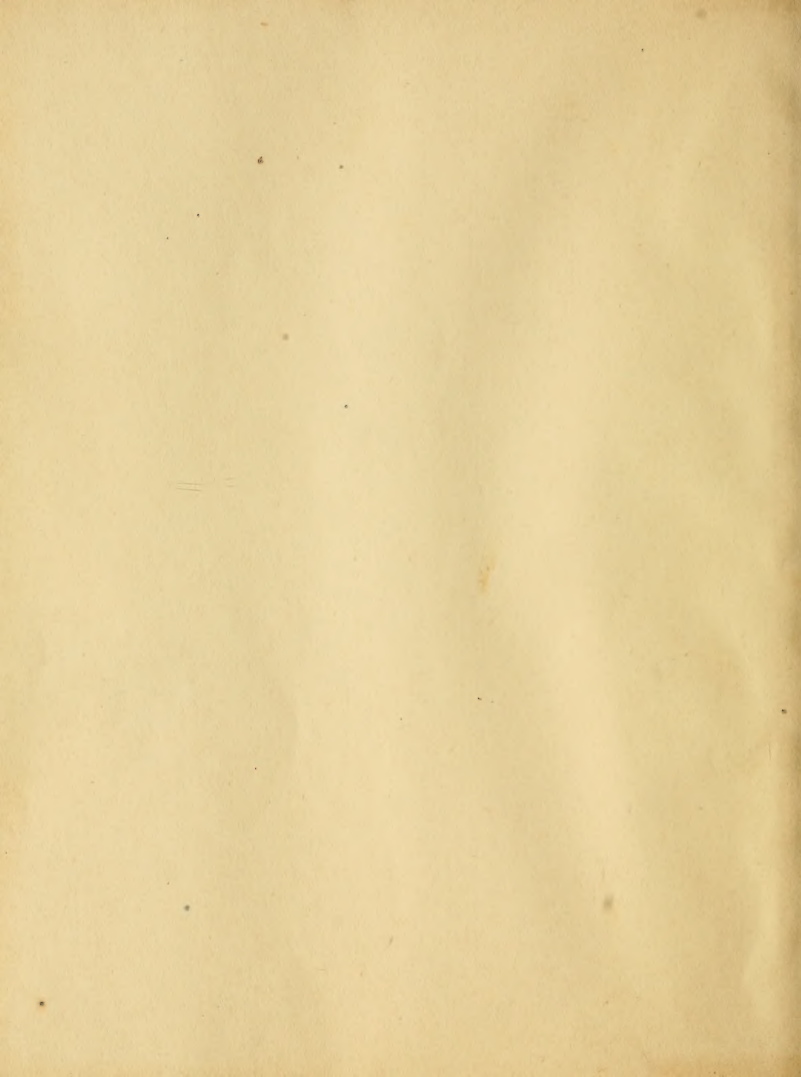
Plant trees for ornament ; plant trees for shade ; plant trees for timber ; plant trees for nuts ; plant trees for fruit. Many are ornamental and fruit or nut bearing also. For edible nuts, plant the almonds, chestnuts, (excepting horsechestnuts), walnuts and hickories. For ornament and fruit also, plant the Downing mulberry. The maples have been and always will be very popular street trees. The silver is the most rapid grower ; the Norway has the darkest foliage ; the sugar is the most symmetrical. For an extensive lawn all the trees are in place. Crowding should be avoided. It is well to remember that in lawn effects the trees should be the frame of the picture and not in the foreground. For limited area the Japan maple and Kilmarnock willow can be used to advantage. Plant any time from the fall of the leaf to budding time in Spring. Many, who give good care to their fruit trees, leave their ornamental trees to care for themselves. This is not as it should be. You can have a fine shade tree in six years, if you will only keep a circle, six feet in diameter, cultivated during the growing season ; and every Autumn top-dress the surface with a wheelbarrow load of yard manure.

Evergreen Trees.

Where only deciduous trees are grown there is a lack of tone and character to the landscape. This is particularly so in Winter, when the barrenness is really depressing. In bleak localities they are indispensable as wind-breaks. Single specimens of Norway spruce, hemlock, juniper and the retinisporas are very effective in small yards. The American arbor vitæ is susceptible to severe pruning and may be shaped to suit any fancy. It is the best hedge plant. The white pines are the most rapid growers. Nordman's fir is the finest of all fir trees. Plant in April, May and September on moist days. Exceeding care should be taken to prevent drying of the roots, as they do not recover as readily as non-resinous trees. Give these the same attention recommended for deciduous trees. To keep them in good form, it is desirable to clip the ends of the branches every other year. Remember that all the good effects in landscape gardening are lost if you trim up your trees. Evergreens should approach the pyramid in form ; but the judicious gardener would not clip them to such form, but follow the natural bent of the tree. Uniformity is not desirable. Many grotesque or odd forms, gained by clipping, are not in good taste. If found at all on an extensive lawn, it should be in an inconspicuous place.









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